



Department of Energy

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MAR 11 1993

93-DOE-02561

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MAR 11 1993


Gentlemen

As agreed upon, the Department of Energy/Rocky Flats Office (DOE/RFO) is hereby transmitting a draft outline for an Interim Measure/Interim Remedial Action (IM/IRA) for management of the water in the A-series ponds, B-series ponds, Pond C-2, and the Landfill Pond as discussed in scoping meetings held with representatives from your agencies. Also enclosed is a draft chart outlining the steps and a tentative schedule for submittal of an IM/IRA. We would appreciate receiving any comments or questions you have regarding this outline by March 19, 1993, to begin the detailed amplification of the elements presented.

An interim plan for managing pond waters that was also discussed with your agency representatives will be available for your review shortly.

If you have any questions regarding these issues, please contact me at 966-5918, or Mark Van Der Puy at 966-2473.

Sincerely,

  
James K. Hartman  
Assistant Manager for Transition  
and Environmental Restoration

ADMIN RECORD

A-0007-000261

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**DRAFT OUTLINE  
Pond Water Management IM/IRA**

**Executive Summary**

**Chapter 1 - Introduction**

- 1 1 Project Background**
  - Statement of Basis and Purpose**
- 1 2 General Approach to Surface Water Management**
- 1 3 IM/IRAP Organization**

**Chapter 2 - Site Characterization**

- 2 1 Site Description and Background**
  - 2 1 1 RFP Location Map and Facility Description**
  - 2 1 2 Surrounding Land Use/Population Density**
  - 2 1 3 Ponds/drainages/flowpaths - description and maps**
  - 2 1 4 Downstream water use & downstream considerations**
    - Option B projects, water rights**
- 2 2 Description of Affected Environment**
  - 2 2 1 Physical Environment - spatial setting & topography**
  - 2 2 2 Meteorology/Climate**
  - 2 2 3 Ecology - general**
  - 2.2 4 Ecology - aquatic - specific to ponds/streams**
  - 2 2 5 Geology/Hydrology/Hydrogeology**
  - 2 2 6 Threatened and Endangered Species**
    - Endangered Species Act**
    - Bald Eagle Protection Act**
  - 2.2.7 Sensitive Environments - wetlands/floodplains**
  - 2 2 8 Cultural Resources**

**DRAFT OUTLINE  
POND WATER MANAGEMENT IM/IRA DECISION DOCUMENT**

- 2 3 Summary of Existing Pond Water Management System
  - 2 3 1 Non Discharge Ponds (ponds A1,A2,B1,B2 as a "system")
    - Functions-Spill or "suspect" water collection/control
      - Protection of discharge ponds
    - Volume Management methods- spray evaporation or transfer/release to other non-discharge ponds
    - Operational Protocols - monitoring/sampling requirements, analytes of concern, notification/ approval steps, "system" operations and oversight
  - 2 3 2 Discharge Ponds (ponds A3,A4,B5,C2 as a "system")
    - Functions - Collection of stormwater and STP flows
      - Off site discharge
      - protection of downstream water
    - Volume Management methods - discharge with or without treatment, interdischarge pond transfers
    - Operational Protocols- regulatory monitoring/sampling requirements, analytes of concern, notification/ approval steps, "system" operations and oversight
  - 2.3.3 Landfill Pond
    - Functions-collection/control of landfill leachate
      - Protection of downstream waters
    - Volume Management methods- spray evaporation or transfer/release to non-discharge ponds
    - Operational Protocols - monitoring/sampling requirements, analytes of concern, notification/ approval steps, facility operations and oversight
  - 2 3 4 Drainage Pathway Management
    - Functions- intercept & collect on site water flows
      - Diversion of run-on
    - Management methods- valved bypass pipes, interceptor ditches, static diversion structures
    - Operational Protocols - flow monitoring, routine maintenance/inspection
- 2 4 Current Regulatory /Water Management Guidance Documents
  - 2 4.1 NPDES/NPDES-FFCA - Monitoring, Biomonitoring, Pond Discharges, STP discharges, SPCC/BMP
  - 2 4 2 CWQCC - Stream Standards
  - 2 4 3 AiP
  - 2 4 4 IAG - RAD Work Plan
  - 2 4.5 STP Influent Control - Internal Waste Streams ID

DRAFT OUTLINE  
POND WATER MANAGEMENT IM/IRA DECISION DOCUMENT

- 2 5 Sources & Potential Contaminants associated with this IM/IRA
  - 2 5 1 Previous Releases - Remobilization of contaminants
    - Historical Release Report
  - 2 5 2 STP Discharges
  - 2 5 3 New On-site spills/releases
  - 2 5.4 Discharges from Operable Units
    - OU 1 Effluents, OU 2 Effluents, Seep at B2
  - 2 5 5 Landfill Leachate
  - 2.5 6 Other Sources of Contaminants
    - Diesel spills, algae blooms, 460 outfall
  - 2 5 7 Summary of potential/known contaminants by pond
- 2 6 Summary of Water Quality Management
  - 2 6.1 Background Water Quality Investigations
  - 2 6 2 Regulatory Water Quality Reporting
    - Discharge Monitoring Reports (STP Discharges, Off-site Discharges)
  - 2.6.3 Ambient Water Quality Conditions
    - Site Specific by location
- 2 7 Summary of Site Risks
  - 2 7 1 Pathway Exposure Assessment
  - 2 7.2 Contaminants of Concern
    - Radionuclides, Metals, Organics
  - 2 7 3 Toxicity Assessment
    - Radionuclides, Metals, Organics
  - 2 7 4 Risk Characterization
  - 2 7 5 Existing Risk Assessments (Chem Tracking)
- 2 8 Site Conditions that Justify an IM/IRA
  - 2.8.1 Deletion of regulatory control of discharges under NPDES
  - 2 8.2 Site Risk considerations
  - 2 8 3 Potential for unregulated transfer or treatment of RCRA regulated waste - (spread of contamination)
  - 2.8.4 Procedural control of operations
  - 2 8 5 Potential degradation of "Waters of the US"
  - 2.8.6 Use of "Waters of the US" for treatment/storage of RCRA regulated substances

- - Unresolved Jurisdictional issue

DRAFT OUTLINE  
POND WATER MANAGEMENT IM/IRA DECISION DOCUMENT

### Chapter 3 - Identification of Pond Water Management IM/IRA Objectives

#### 3.1 Scope of IM/IRA

Pond Management efforts subject to the IM/IRA will include emergency spill control, storage, treatment, volume reduction, transfers, monitoring and discharges. The overall goal of the IM/IRA is to prevent the spread of contaminants through the efforts noted above, in an approved regulatory framework. Corollary to this goal is the need to assure consistency with IAG remediation efforts and the forthcoming NPDES permit (including both the STP point source outfall, and stormwater BMP's).

#### 3.2 IRA Schedule

3.2.1 DRAFT Decision Document (Complete 9-1-93)

3.2.2 FINAL Decision Document (Complete May? 1994)

3.2.3 Implementation Plan

#### 3.3 Compliance w/ ARAR's and Protection of Health/Environment

3.3.1 ARAR's - Definition and Purpose - Performance criteria used to evaluate success in achieving protection of human health and the environment (to the maximum extent practicable)

3.3.2 To Be Considered (TBC's) - Items other than ARAR's which promote/ enhance the Objectives

3.3.3 ARAR Categories - Purpose of Chemical Specific, Location Specific, and Action Specific Requirements

## Chapter 4 - Identification and Analysis of Potential ARAR's

- 4.1 Potential Ambient or Chemical Specific Requirements
  - 4 1 1 "Benchmarks" document for water quality - includes
    - SDWA MCL's & MCL Goals
    - Federal (CWA) Ambient Water Quality Standards
    - CWQCC Stream Standards (Statewide & Basin Specific)
  - 4 1 2 RCRA Max Conc Limits (LDR & F039)
  - 4 1 3 Air Quality Standards
- 4 2 Potential Location Specific Requirements
  - 4 2 1 Pond specific requirements for ambient water quality monitoring, dam safety considerations, etc
  - 4 2 2 NPDES point source outfall (per Permit)
  - 4 2 3 NPDES stormwater monitoring points (per Permit)
- 4 3 Potential Action Specific Requirements
  - 4 3 1 Discharge operations - SOP's, reporting/approvals
  - 4 3 2 Spill Collection/Containment - BMP's
  - 4 3.3 Treatment- BAT, SOP's, waste handling
  - 4 3.4 Spray Evaporation - SOP's, etc
  - 4 3 5 LF pond transfers - SOP's, etc
  - 4 3 6 Interpond transfers (Non discharge ponds) - SOP's, etc
  - 4 3 7 Interpond transfers (Discharge ponds) - SOP's, etc
  - 4 3 8 Construction efforts - Building Codes, env. analysis
  - 4 3.9 Sampling/Analytical - protocols, standard methods
  - 4 3 10 Emergency releases
- 4 4 Summary of Selected ARAR's
  - 4 4 1 Justification of selected Ambient or Chemical Specific ARAR's
  - 4 4 2 Justification of selected Location Specific ARAR's
  - 4 4 3 Justification of selected Action Specific ARAR's

## Chapter 5 - Screening and Analysis of Pond Water Management Options

- 5 1 IM/IRA Plan Screening Process
  - 5 1 1 Effectiveness
    - Ability to meet Objectives and ARAR's
    - Risk Reduction
  - 5 1 2 Implementability
    - Technologically available
    - Funding constraints
  - 5 1 3 Laws and regulations
    - Legal under existing environmental legislation
    - Consistent with other laws/regulations (FAR, OSHA)
  - 5 1 4 Cost/Benefit analysis
  - 5 1 5 Consistency with OU actions
    - OU's 5, 6, 7 investigations, workplans, final actions
  - 5 1 6 Regulator and Public Acceptance
- 5 2 Non Discharge Ponds Management Options
  - 5 2 1 Methods for controlling pond volume
    - 5 2 1 1 Spray Evaporation
    - 5 2 1 2 Irrigation - Vegetation enhancement
    - 5 2 1 3 Transfers between ponds
    - 5 2.1 4 Discharge off site
    - 5 2 1 5 Recycle
  - 5 2 2 Treatment Technology / Options (BAT)
    - 5 2 2.1 Solids removal - Filtration, etc
    - 5 2 2.2 Organics Removal - GAC, etc
    - 5.2 2.3 Metals Removal - Ion Exchange, etc
    - 5 2 2 4 Radionuclide Removal
  - 5 2.3 Monitoring
- 5 3 Discharge Ponds Management Options
  - 5 3 1 Methods for controlling pond volume  
(See 5.2.1 above)
  - 5.3.2 Treatment Technology / Options (BAT)  
(See 5.2 2 above)
  - 5 3 3 Monitoring



- 5 4 Landfill pond/ landfill leachate management
  - 5 4 1 Methods for controlling pond volume  
(See 5 3 1 above)
  - 5 4 2 Collection methods
  - 5 4 3 Storage options - type of storage, volume
  - 5 4 4 Treatment Technology/ Options (see above)
  - 5 4.5 Monitoring
- 5 5 NPDES Regulated water management constraints
  - 5 5 1 On-site spill collection, routing, and storage
    - 5 5 1 1 No Action (same as existing)
    - 5 5 1 2 Collection and storage requirements
    - 5 5 1 3 Monitoring and other requirements
    - 5 5 1 4 Drainage pathway upgrades/ changes
  - 5 5 2 Stormwater collection, routing and storage
    - 5 5 2 1 No Action (same as existing)
    - 5 5 2.2 Collection and storage requirements
    - 5 5 2.3 Monitoring and other requirements
    - 5.5 2 4 Drainage pathway upgrades/ changes
  - 5 5 3 STP effluent discharge and routing
    - 5 5 3 1 Effluent storage
      - No Action - continue using B-3
      - off line storage tanks
      - reclaim/line reuse B-3
    - 5 5 3 2 Relocation of discharge point
      - No Action - continue using B-3
      - to A-4
      - below A-4
      - off site

Chapter 6 - PROPOSED ACTIONS

- 6 1 Summary of Selected Pond Water Management Options
  - 6 1 1 Non Discharge Ponds
    - Water collection and storage, volume control, treatment technology, operational/procedural control
  - 6 1 2 Discharge Ponds
    - Water collection and storage, volume control, treatment technology, operational/procedural control
  - 6 1.3 Landfill Pond
    - Water collection and storage, volume control, treatment technology, operational/procedural control
  - 6 1 4 Drainage Pathways
    - Maintenance and reconstruction
    - Operational/procedural control
  - 6.1 5 STP effluent
    - Collection and storage
    - Operational/procedural control
    - Discharge point
- 6 2 Environmental Impacts of Selected Options
  - 6 2 1 Air
  - 6 2 2 Water
  - 6.2.3 Terrestrial and Aquatic
  - 6 2 4 Threatened and Endangered Species
  - 6 2 5 Personnel Exposure
  - 6.2.6 Cultural Resources
  - 6.2 7 Wetlands and Floodplains
  - 6 2 8 Commitment of Resources
  - 6 2 9 Cumulative Impacts
- 6 3 Environmental Evaluation of No Action
  - 6 3.1 Air
  - 6 3 2 Water
  - 6.3 3 Terrestrial and Aquatic
  - 6 3 4 Threatened and Endangered Species
  - 6 3.5 Personnel Exposure
  - 6 3 6 Cultural Resources
  - 6 3 7 Wetlands and Floodplains
  - 6 3 8 Commitment of Resources
  - 6.3.9 Cumulative Impacts

## Chapter 7 - Implementation Plan

- 7 1 Assumptions and Qualifications
  - NEPA
  - Availability of necessary permits/ permit modifications
  - Availability of funding
  - Reservation of Rights under CERCLA and IAG
- 7 2 Proposed Schedule of Tasks & Milestones
  - 7 2 1 Development of SOP's
  - 7.2 2 Construction efforts
  - 7 2 3 New research/studies
  - 7 2 4 Technology Improvements
    - Rad Removal Technologies?
    - Filtration?
    - Real Time Monitoring?

## CHAPTER 8 - Public Comment and Responsiveness Summary (FUTURE)

### REFERENCES

Historical Release Report

Surface Water Management Plan

Spill Prevention, Control, and Countermeasures/ Best Management Practices Plan (SPCC/BMP)

Workplan for the Control of Radionuclides in Water Discharges

Operable Units 5 , 6, 7 RI/RFI/FS Work Plans

Federal Facilities Compliance Agreement (NPDES-FFCA)

InterAgency Agreement (IAG)

Agreement in Principle (AiP)

National Pollution Discharge Elimination System (NPDES) point source and stormwater permit applications

### APPENDICES

- I 40 CFR 268 43 Table CCW (F039 waste)
- II CWQCC Segment 4 and Segment 5 water quality standards
- III Summary of historical water quality data
- IV Summary of previous Risk Assessments (Chem Tracking study)
- V Statistical Methods and References
- VI Summary of Water Quality Reporting System (WQRS)

# Tentative Schedule (without NEPA considerations)

